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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/318,684	05/25/1999	ERIC C. HANNAH	INTL-0202-US	1769

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EXAMINER

STULBERGER, CAS P

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/318,684

Applicant(s)

HANNAH ET AL.

Examiner

Cas Stulberger

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to communications: application, filed 05/25/1999; amendment filed 07/26/2004.
2. Claims 1-11 and 13-31 are pending in the case. Claim 12 is cancelled. Claims 1, 11, 22, and 29 are independent claims.

Response to Arguments

3. Applicant's arguments, see Amendment, filed 07/26/2004, with respect to the rejection(s) of claim(s) 1-11, 13-31 under U.S. Patent No. 6,236,727 B1 to Ciacelli et al. and further in view of U.S. Patent No. 4,734,921 to Giangano et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 5,650,831 to Farwell.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-10, 22-24, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,650,831 to Farwell.

6. In regards to claims 1-3, 5-10, 22-24, and 28, Farwell discloses a home entertainment system (Farwell: Figure1). The antenna receives satellite signals (Farwell: column 7, lines 50-53). This meets the limitation of “a receiver, adapted to receive a digital television signal, in said first housing.” The antenna is connected to a personal computer (Farwell: Figure 1). This meets the limitation of “a housing including a plurality of slots, each slot including a plug adapted to removably receive a card; a bus electrically coupling said slots to one another; and each of said plugs adapted to receive more than one type of serial bus interface.” The personal computer is connected to a monitor (Farwell: Figure 1; column 8, lines 61-65). This meets the limitation of “a digital television display in said second housing; and a digital graphics bus coupled to said receiver in said first housing and said display in said second housing.”

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 11, 13- 21, 24-27, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,650,831 to Farwell as applied to claims 1-3, 5-10, 22-24, and 28 above, in view of U.S. Patent No. 6,236,727 B1 to Ciacelli et al. and further in view of U.S. Patent No. 4,734,921 to Giangano et al.

In regards to claims 4, 11, 13, 15, 20-21, 24-26, 29, and 31, Ciacelli discloses encrypting a data stream to produce an encrypted data stream and means for transferring the encrypted data stream to a second structure of the computer system, the second structure being coupled to the CPU (Ciacelli: Figure 1; column 2, lines 10-18). This meets the limitation of “an encryption engine coupled to said bus to encrypt signals transferred from said receiver to said bus, said encryption engine.” Ciacelli also discloses that at the receiving module, the data can be decrypted for display (Ciacelli: Figure 1; column 2, lines 65-67). This meets the limitations of “a decryption engine coupled to said bus to decrypt signals transferred from said bus to said display.” However Ciacelli does not disclose providing two different levels of encryption.

Giangano discloses a fully programmable linear feedback shift register “for encoding and encrypting information” (Giangano: column 1, lines 24-34). “The shift register utilizes a plurality of flip-flop stages. Each flip-flop stage is identical; and consequently, the shift register can be programmed for different lengths.” (Giangano: column 1, lines 34-43). This meets the limitation of “said encryption engine to provide two different levels of encryption.”

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of encrypting data across a bus as disclosed by Ciacelli with the method of providing different lengths of encryption as disclosed by Giangano in order to make the encryption more secure.

9. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,650,831 to Farwell in view of U.S. Patent No. 6,236,727 B1 to Ciacelli et al. in view of

U.S. Patent No. 4,734,921 to Giangano et al. as applied to claims 4, 11, 13, 15, 20-21, 24-26, and 29 above and further in view of U.S. Patent No 5,784,427 to Bennett et al.

However Ciacelli does not disclose using programmable tap registers. Bennett discloses a linear feedback shift register for storing the value of the feedback and shift unit. A tap register stores a tap position indicator indicative of tap positions for the feedback and shift unit (Bennett: Abstract). Bennett discloses a tap register and combinatorial logic (Bennett: Figure 3). Bennett also discloses a memory device in figure 11. This meets the limitations of “tap register, combinatorial logic, and tap memory; linear feedback shift registers.” An input sequence is injected into the shift register from an input register (Bennett: Figure 3; column 4, lines 5-7). This meets the limitation of “a combiner adapted to combine a seed signal together with feedback from said programmable tap register to create an input signal to said linear feedback shift register.” Bennett also discloses a majority mask register which identifies bits that must be logically combined (Bennett: column 5, lines 54-56). The corresponding bits of a shift register and a majority mask register are logically combined in an exclusive or logic block (Bennett: column 5, lines 66-67). This meets the limitation of “a high level of encryption.” The tap registers are programmable to allow the tap positions to be re-defined at any time (Bennett: column 5, lines 56-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of encrypting data across a bus as disclosed by Ciacelli with the linear feedback shift registers and tap registers as disclosed Bennett in order to reduce to a minimum the number of processing steps required in a processor, to achieve a

particular operating function, such as a linear feedback shift or a stepping function used by encryption algorithms (Bennett: Abstract).

10. Claims 14, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,650,831 to Farwell in view of U.S. Patent No. 6,236,727 B1 to Ciacelli et al. in view of U.S. Patent No. 4,734,921 to Giangano et al. in view of U.S. Patent No 5,784,427 to Bennett et al. as applied to claims 16-19 above, and further in view of U.S. Patent No. 6,005,940 to Kulinets et al.

Ciacelli however does not disclose the encryption is changed on the frame boundaries.

Kulinets discloses that each frame of data includes a header, which has a frame identification number. The number is used in a decryption engine to calculate a decryption key which is used to decrypt the frame of data (Kulinets: Abstract)..

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the encryption method as disclosed in Ciacelli with the method of changing the key for each frame as disclosed in Kulinets in order to discourage both home copying and commercial piracy of the underlying program material (Kulinets: Abstract).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cas Stulberger whose telephone number is (703) 305-8034. None. The examiner can normally be reached on Monday - Friday, 9:00A.M. - 5:00P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications, (703) 746-7240 for drafts, and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

CS

CS
November 23, 2004



THOMAS R. PEES
PRIMARY EXAMINER